



UNITED STATES PATENT AND TRADEMARK OFFICE

lk

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/808,952

03/25/2004

Nelson Diaz

16274.179

6355

22913

7590

08/24/2006

WORKMAN NYDEGGER
(F/K/A WORKMAN NYDEGGER & SEELEY)
60 EAST SOUTH TEMPLE
1000 EAGLE GATE TOWER
SALT LAKE CITY, UT 84111

EXAMINER

VAN ROY, TOD THOMAS

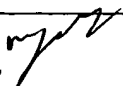
ART UNIT

PAPER NUMBER

2828

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/808,952	Applicant(s) DIAZ, NELSON	
	Examiner Tod T. Van Roy 	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-14 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-14 and 22-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

Pages 7 and 8 list the PNP transistors found in figure 4, and incorrectly list #350 instead of #370.

Appropriate correction is required.

Response to Amendment

The examiner acknowledges the cancellation of claims 1-8 and 15-21.

Response to Arguments

Applicant's arguments, see Remarks, filed 06/19/2006, with respect to the rejection(s) of claim(s) 9-14 and 22-28 under USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

The examiner believes that the motivation for the previous combination of references would not have necessarily been obvious to one of ordinary skill in the art, and therefor the previous rejections are withdrawn. Please see below for an updated rejection to these claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2828

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 9-14 and 22-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diaz in view of Riazat et al. (US 2003/0138008).

With respect to claim 9, Diaz teaches a laser driver comprising: a PNP transistor current source (fig.13a upper left, also a current mirror), an inductor coupled to the PNP transistor current source (fig.13a #809); a switch coupled to the inductor (fig.13a #838, NPN); and a current sink coupled to the switch (fig.13a #834), wherein the PNP transistor current source supplies a first current to a laser if the switch is closed and a second current to the laser if the switch is open (as this circuit is the same as the claim limitations, and fig.4 of the applicant's specification, it is inherent that the operation would be the same) and wherein the PNP transistor current source, inductor, switch, and current sink are on a single semiconductor chip ([0030], stating the laser driver may be implemented on a single chip); including a second transistor (NPN) switch (fig.13a #830). Diaz does not teach an additional PNP current source and inductor to be coupled to the second switch, or the laser diode to be driven differentially. Riazat teaches a laser driver which uses a differentially driven laser diode ([0005]). It would have been

Art Unit: 2828

obvious to one of ordinary skill in the art at the time of the invention to couple an additional identical PNP current mirror and inductor of Diaz (obvious to duplicate existing parts, see MPEP – 2144.04 VI B – duplication of parts) to the second switch to form the second, identical, transistor driving arm to allow for differential driving of the laser diode (a well known configuration, see Riazat [0005]) allowing for reduction of parasitics when used in conjunction with transistor outline packaging (Riazat, [0005]).

Claim 10 is rejected for the same reasons as claim 9 above.

With respect to claim 11, Diaz further teaches the switch to open and close in response to a data signal (fig.13a through input #832, also inherent that a switch would open and close in response to a data signal).

With respect to claim 12, Diaz further teaches that when the switch is closed to drive the laser to output a logic low (only bias applied, logic low) optical signal and the switch is opened to drive the laser to output logic high (both currents applied, logic high).

With respect to claims 13, Diaz further teaches the inductor size influences the frequency response of the PNP current source, and reduces intersymbol interference ([0088-90], also inherent as the circuit and inductor placement are the same as the instant invention).

Claim 14 is rejected for the same reasons as claim 9 above.

With respect to claims 22-28, Diaz and Riazat teach the laser driver as outlined in the rejection to claim 9, and Diaz further teaches the method of operating the laser

Art Unit: 2828

driver as in the rejection to claims 15-21, which after the addition of the second PNP current mirror and inductor (with similar operation), would read on claims 22-28.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tod T. Van Roy whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVR


MINSUN OH HARVEY
PRIMARY EXAMINER